

REMARKS

Claims 1-55 are pending in the present application. Claims 1, 3, 29, and 31 are amended above. New claims 56-63 are added. No new matter is added by the claim amendments or new claims. Entry is respectfully requested.

The Abstract of the Disclosure stands objected to for reasons indicated in the Office Action. The Abstract is amended above in a manner that is believed to overcome the objection. Reconsideration and removal of the objection are respectfully requested.

The Title stands objected to for reasons indicated in the Office Action. The Title is amended above in a manner that is believed to overcome the objection. Reconsideration and removal of the objection are respectfully requested.

The drawings stand objected to for reasons stated in the Office Action. The drawings are amended above to individually label FIGs. 4-7 and 15 as FIG. 4A, 4B, 4C; FIG. 5A, 5B, 5C; etc. Reconsideration and removal of this objection are respectfully requested. With regard to the objection of the drawings related to the content of claims 14 and 41, applicant notes that the feature of claims 14 and 41, related to "convex features of multiple depths" is shown and discussed at least in conjunction with FIGs. 15A - 15C of the present specification and the associated text at page 18, lines 1-10; and the feature of claims 21 and 48, related to "multiple convex features of multiple thicknesses" is shown and discussed at least in conjunction with FIGs. 6A - 6C, and the associated text at page 16, line 14 - page 17, line 3. Reconsideration and removal of the objection are respectfully requested.

Claims 1-55 stand rejected under 35 U.S.C. 112, second paragraph for reasons stated in the Office Action. The claims are amended above in a manner that is believed to overcome the rejections. Entry of the amendments and removal of the rejections are respectfully requested.

Claims 1-3, 5-10, 23, 24, 27, 29-31, 33-38, 50, 51 and 54 stand rejected under 35 U.S.C. 102(e) as being anticipated by Lawandy *et al.* (U.S. Patent No. 6,338,933 - hereinafter "Lawandy"). Claims 4, 11-22, 25, 26, 28, 32, 39-49, 52, 53 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawandy. Reconsideration of the rejection and allowance of claims 1-55 are respectfully requested.

The present invention as claimed in independent claim 1 is directed to a method for modifying an optical path of an optical medium. The optical medium includes a first layer adjacent a data layer. The method includes selecting a region of the first layer to be distorted. Further, prior to a reading operation of the medium, the region of the first layer is distorted such that a reading operation of data stored in the data layer corresponding to the distorted region is modified. The distorted region extends in a direction along a track of the data layer. The distorted region maintains its optical characteristics following irradiation of the distorted regions during the reading operation.

The present invention as claimed in independent claim 29 is directed to an optical medium. The optical medium has a modified optical path. The optical medium includes a first layer adjacent a data layer. Further, the optical medium includes a distorted region that is formed at the first layer prior to a reading operation of the medium, such that a reading operation of data stored in the first layer corresponding to the distorted region is modified. The distorted region extends in a direction along a track of the data layer. The distorted region maintains its optical characteristics following irradiation of the distorted regions during the reading operation.

Thus, in the invention as claimed in claim 1 and in the invention as claimed in claim 29, the "distorted region" is formed in the "first layer" of the optical medium "prior to a reading operation of the medium". That distorted region has associated with it certain "optical characteristics" following its formation, that are "maintain(ed)", and are therefore stable. This stability is maintained, even "following irradiation of the distorted region" during a subsequent "reading operation".

Lawandy, on the other hand, is directed to a system and method in which a optical medium is rendered unreadable following a first read, or following a fixed number of reads, of the medium. During the read operation, the introduction of incident laser energy causes a permanent modification of the optical characteristics of the medium, that affects the readability of the underlying data during subsequent read operations. In one embodiment, shown and described in connection with FIGs. 3A and 3B, the optical medium is provided with a photopolymer layer 200 that expands upon the introduction of laser energy during a read of the device. Expansion of the polymer as a result of the irradiation (see deformation 210 of FIG. 3B of Lawandy) permanently affects the readability of the underlying data resident in the pits and lands 25, 27 of the medium (see Lawandy, column 8, lines 7-16 and column 8, lines 64-65). Polymer expansion in this manner also has a permanent effect on the surface topology of the medium, which can detrimentally affect the tracking operation during a read of the medium. (see Lawandy, FIG. 8 and column 9, lines 26-44). In a second embodiment, Lawandy teaches the use of an oxygen-loaded photosensitizer layer 300, which, upon the incidence of laser energy during a read operation, releases oxygen that permanently oxidizes, and therefore permanently affects the reflectivity of, and therefore the readability of, the reflective data layer 22' (see Lawandy, FIGs. 4A and 4B, and the corresponding discussion at column 9, line 45 - column 10, line 25). In a third embodiment, Lawandy teaches the use of an uncured polymer layer 402B that is adjacent the reflective layer 22' (see Lawandy, FIG. 5A, and corresponding discussion at page 10, lines 26-53). Upon exposure to laser energy during a read operation, the polymer layer is cured and oxygen is released that permanently oxidizes, and therefore permanently affects the reflectivity of, and therefore the readability of, the reflective data layer 22' (see Lawandy, FIG. 5A, and corresponding discussion at page 10, lines 26-53). In this manner, Lawandy provides methods and systems for rendering a disk unreadable following a first read, or following a predetermined number of reads, of the data contained on the disk.

In view of the above, it is submitted that Lawandy fails to teach or suggest the present invention as claimed in independent claims 1 and 29. In particular, Lawandy fails to teach or suggest "distorting the region of the first layer"... "prior to a reading operation of the medium",

as claimed in claim 1 (emphasis added), or “a distorted region formed at the first layer prior to a reading operation of the medium”, as claimed in claim 29 (emphasis added). Instead, Lawandy teaches distortion of the surface profile of the medium following an initial read of the disk as a result of irradiation of the disk. It is further submitted that Lawandy fails to teach or suggest “the distorted region maintaining its optical characteristics following irradiation of the distorted region during the reading operation”, as claimed in claims 1 and 29. Instead, in Lawandy, the optical characteristics of the medium permanently change as a result of the irradiation.

For the reasons indicated above, it is submitted that Lawandy also fails to teach or suggest the invention as claimed in new independent claim 58 or the invention as claimed in new independent claim 61. Allowance of the claims is respectfully requested.

A Supplemental Information Disclosure Statement is submitted herewith to cite the English-language translation of reference “BL” (EP 0987705), cited in the Information Disclosure Statement filed by applicant on May 10, 2004. The English-language translation is a copy of the translation as deposited in the United Kingdom patent office by the applicant of the EP 0987705 application. It is submitted that the EP 0987705 reference fails to teach or suggest a distortion region that extends “in a direction along a track of the data layer”, as claimed. Instead, in the EP 0987705 reference, the interference structures are formed to extend solely in a “radial” direction, in other words, in a direction perpendicular to the track direction. Consideration of the translated reference is respectfully requested.

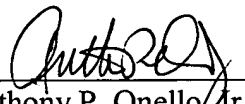
In view of the above, it is respectfully submitted that all claims are in condition for allowance, and such allowance is respectfully requested. With regard to the various dependent claims, it is submitted that these claims should inherit the allowability of the independent claims from which the depend.

Closing Remarks

It is submitted that all claims are in condition for allowance, and such allowance is respectfully requested. If prosecution of the application can be expedited by a telephone conference, the Examiner is invited to call the undersigned at the number given below.

Respectfully submitted,

Date: August 13, 2004  
Mills & Onello, LLP  
Eleven Beacon Street, Suite 605  
Boston, MA 02108  
Telephone: (617) 994-4900, Ext. 4902  
Facsimile: (617) 742-7774

  
Anthony P. Onello, Jr.  
Registration Number 38,572  
Attorney for Applicant

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